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ABSTRACT

Described is an interdisciplinary diagnostic treatment program for children with moderate to profound language retardation due to mental retardation or more specific dysfunction. Noted are program characteristics including a 1-week testing program, concern with the mental health status of the family, and the stress on the development of auditory-visual storage and processing through the utilization of linguistic "chunking" procedures. It is explained that four groups of approximately 10 children each are provided with individual and group activities and therapy for a minimum of 2 hours daily. Tests used in the evaluation program are listed. Briefly described are the following program components: the team approach, parent education-counseling, parent-staff association, behavioral management, and language treatment. Stressed are the need to alleviate family conflicts and alter the child's negative behavioral pattern for a successful habilitative program. (DB)

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A HABILITATION PROGRAM FOR CHILDREN WITH MODERATE, SEVERE AND PROFOUND LANGUAGE RETARDATION: A TEAM APPROACH

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INTRODUCTION

The "pediatric language program" at the University of Tennessee was funded in September of 1972, and became fully operational in January, 1973. Like other diagnostic and treatment programs, it has been struggling to conceptualize a constructive habilitation program for children with language disorders. Unlike many other clinical programs, its patient population is composed primarily of children with moderate to severe and profound language retardation and its staff is composed of representatives from diverse disciplines, all of whom have as their prime motive the enhancement of the patients' language skills. The staff includes: two speech and language clinicians, a movement educator, a special educator, a social worker, and the part-time services of the program director.

In addition to these matters, the following dynamics also characterize the program and may differentiate it from other language habilitation team approach programs: (1) the evaluation protocol is relatively unusual in its stress upon patient acceptance of the examiner, the duration of the time-span involved in the testing program - one week, and the diversity and types of test tools used to evaluate the children; (2) the re-evaluation program appraises the relative success of the child habilitation program in conjunction with (a) any beneficial alterations that might have occurred in the patients behavior as well as (b) the degree of improvement in the parent sophistication regarding the habilitative dynamics, and (c) in the mental health status of the family constellation; (3) the child habilitation program stresses the development of auditory-visual storage and processing skills through the utilization of linguistic "chunking" procedures, and varied intonations of these "chunks" - in essence, taking from the verbo-tonal and time-expansion literature selected treatment concepts; (4) the behavior management program stresses an interaction between behavior modification contingencies and psychopharmacological treatment; (5) the parent

interaction program stresses intensive counseling and the amelioration of negative affect, as well as the more conventional educational aspects.

Two groups of children, with approximately 10 children per group, are seen in the mornings and another two groups are treated in the afternoons. Each child is seen for a minimum of two hours in a group activity and many of the children also are treated on an individual basis preceeding, during or following the group activity. The children range in age from three to seven years.* The degree of language retardation is determined by extrapolation of the American Association of Mental Deficiency's (1973) schema of communicative behavior by age, as follows:

LEVELS OF LANGUAGE RETARDATION: AAMD CLASSIFICATION, 1973

If a Child's Highest Level of Verbal Functioning is as follows:	And his chronological age is:	The child's language retardation level is therefore:
Imitates sounds, laughs or smiles back: no effective speech; responds to gestures and/or signs.	three or above	profound
Uses one or two words (e.g., Mama, Ball) but predominantly vocalization	three or above	severe
May use four to six words; uses many gestures	three or above	moderate
May speak in two or three word sentences (e.g., Daddy go work); name simple common objects	three or above	mild
See Number 2 above	six and above	profound
See Number 3 above	six and above	severe
See Number 4 above	six and above	moderate

*This age-range is dictated by the grant protocol supporting the program.

The etiologies of these language problems stem generally from (1) genetic problems such as Down's Syndrome, and causing a generalized depression of abilities and, (2) teratogenic factors, such as prenatal illness and infectious disease, causing specific dysfunctions, and (3) traumatic incidents, such as post-natal accidents or illnesses, also causing specific dysfunctions. Thus, some of the children possess an over-all retardation accompanied by specific language retardation, while others manifest a diversity of skills - normal and abnormal - but demonstrate a significant impairment of symbolization skills.

THE EVALUATION PROGRAM

Diagnostic-Therapy

It is the opinion of the members of this program that unreliable and invalid evaluative data frequently result from a one-meeting interaction with language-retarded children such as are seen and treated in this program. In an effort to insure a fair and realistic evaluation of the child's potential, each child is allowed to interact with his peers and staff members for approximately one week before any attempt is made to administer a formal and/or informal test battery. During the following week or two a variety of tests are gradually presented to the child as a case history is elicited from the informant. In subsequent meetings staff members and other interested professionals have an opportunity to present their ideas and opinions into the diagnostic-recommendation process. Due to our friendly relationship with the local Birth Defects Evaluation Program, we are able to secure genetic analyses as indicated, and psychological evaluations routinely.

Initial Evaluation

A variety of formal and informal tests may be utilized by the examiners. Following the initial evaluation, we discuss the results of the "staffing" with the parents. The following test battery describes the nature of these tests; some of which can be utilized only for those children with less severe problems.* A number of these tests have been infrequently used but are given below nevertheless.

Test	Area's Tested
Assessment of Children's Language Comprehension Test-	receptive language, storage and processing
Audiogram	hearing acuity
Auditory Discrimination Test (Boston) or	auditory discrimination involving sound and word contrasts
Auditory Discrimination Test (Templin) or	auditory discrimination involving sound and word contrasts
Auditory Discrimination Test (Wepman)	auditory discrimination involving word contrasts only
Auditory Blending Test (Roswell-Chall)	auditory blending
Behavior Checklist (our own)	behavioral characteristics
Behavioral Analyses (Wahler)	observation of aberrant behaviors
Birth-3 Scale (Bangs)	expressive-receptive language, problem solving, social skills
Columbia Mental Maturity Scale	visual perception: eye-motor coordination, figure-ground, form constancy, position in space spatial relationships
Digit Span Repetition (Adler)	auditory memory
Duplication of Geometric Forms (our own)	visual-motor; perception of form
Gross Motor Skills (University of Connecticut, the Mansfield Training Program)	gross motor skills
Growth Grid (Wetzel)	measures growth patterns
Houston Test of Language Development	spatial orientation, body image receptive-expressive language
Illinois Test of Psycholinguistic Abilities	auditory memory, association closure, and reception; visual reception, association closure, and memory; verbal and manual expression; grammatic closure; sound blending
Incomplete Man Test (Gesell)	visual-motor (eye-hand)
Michigan Picture Language Inventory	receptive and expressive language
Northwestern Syntax Screening Test	receptive and expressive grammar
Oral Peripheral Examination (our own)	structure and function of articulatory mechanism

*It should be immediately apparent that only selected tests are utilized during each evaluation; furthermore, much use is made of informal observations of children's linguistic and general behavior patterns.

Test	Area's Tested
Peabody Picture Vocabulary Test	receptive vocabulary
Picture Story Language Test (Myklebust)	expressive-written language
Preschool Attainment Record (Doll, ExperimentalVersion)	attainment age: ambulation, manipulation, rapport, communication, responsibility, information, ideation, creativity
Preschool Language Scale (Zimmerman et al)	receptive and expressive language
Receptive-Expressive Emergent Language Test (Bzoch-League)	infant scale receptive and expressive language
Schedule of Motor Development (Myklebust)	developmental level of motor skills
Screening Test of Auditory Perception(Kimmell & Wahl)	auditory perception
Sentence Repetition Test (our own)	syntactic performance
Test of Articulation (Templin-Darley)	articulation performance
Visual Motor Integration (Beery)	visual motor

Reevaluations

Each child is reevaluated routinely every six months, or sooner if indicated. Reevaluation reports are prepared which (1) compare his progress relative to his previous status re: speech and language performance, readiness skills, and behavior, and which (2) compare parental sophistication and mental health with previously ascertained levels. The previous recommendations and the progress manifested by the children and family in meeting these goals are then reevaluated, and new recommendations are fashioned.

THE HABILITATIVE PROGRAM

The dynamics of our treatment program involve five fundamental factors: (1) an interdisciplinary team approach to habilitation; (2) intensive parent-education and parent-counseling (these components of our program occur in the parental home as well as in the habilitation center); (3) parental involvement in the program, i.e., an active parent organization; (4) behavioral alterations in the children through a combination of approaches depending mainly on an interaction between operant conditioning strategies and psychopharmacological treatment, or each separately; (5) properly stored and

processed input in the treatment program.

The Team Approach

The rationale for the team approach can be stated simply: two professional workers from tangentially related disciplines can teach and treat such children more effectively than can a single worker. Thus, our program includes two habilitation teams composed of workers from different disciplines. These professional peers must learn to coordinate their activities while respecting each other's expertise. As with any "marriage", this necessitates a "give and take" relationship - the ability to be flexible while maintaining one's professional image and integrity and the maturity to recognize needs and opportunities while interacting in an interdisciplinary manner.

The primary goal of the habilitative workers is development of language skills as mentioned above. All workers contribute their unique talents to this goal: the speech and hearing clinicians generally contribute their expertise in more formal interactions with the children, as compared to the other professional workers, the special educator and the movement educator, who operate on a more informal level with the children. The team members have learned to take advantage of their diverse skills and have amalgamated them into a truly "team" program for the benefit of the children. As new employees are hired as replacements, additional time is required to effectuate harmonious programming.

Parent Education-Counseling

The second dynamic is more complex. Most parents of exceptional children can profit significantly from intensive education and counseling interactions - but relatively minimal time is spent in conventional programs promoting such interactions. Yet parents may possess deeply felt negative feelings that affect their self-concept, and their relationships with their mate and/or children. Such covert detrimental relationships may trigger friction within

the family with resultant unhealthy child-rearing and marital environments. Attenuation of these feelings and problems is obviously of primary importance if an habilitation program is to succeed in its goals.

The social worker is mainly responsible for obviating the emotional problems relatively common to a family constellation in which a severely handicapped child is reared. Six areas of concern are of major interest to this worker: child behavior, parent-child relationship, parent-parent relationship, child-sibling relationship, maternal self-concept, and financial, physical and emotional concommitants of the home environment.

Of interest is the gradual emergence of guilt feelings and negative self-concepts by some parents. Given the opportunity to ventilate their feelings, much cathartic behavior has been evidenced. Obviously, these feelings have to be handled carefully if the subsequent counseling interactions are to be healthy ones. To suggest that the emergence of these or other emotions is potentially dangerous and therefore that counseling should be devoid of such affect, is generally unsatisfactory and untenable insofar as successful counseling is concerned.* These group and individual counseling interactions are the responsibility of our social worker; these sessions are conducted both in the clinic and in the home.

With respect to the educational interaction, it has long been our philosophy that the amount of time some habilitationists traditionally allot to parental education is at best ineffective, and in some cases down-right damaging. To treat effectively a child's severe communication disorder requires that a very significant amount of time be alloted to the reprogramming of basic or foundational skills. Pragmatically, the only person capable of generating such amounts of time is the mother.

*Nevertheless, it is important to point out that in a few cases it has been decided that it is better for the present time at least, to try to allow certain feelings to remain repressed; that it is possible for us to do more harm than good by attempting to 'work with' these feelings.

In many programs however, it would not be unusual for interactions with the child's mother to be superficial; i.e., to tell the mother casually what has been done for her child during the clinical interaction, and to inform her rather simplistically regarding exercises she may perform in her home therapy with her child. But such relationships do not generally permit for the development of acceptable maternal skills, nor maternal insights into the necessity for the exercises.

In order to accomplish the goal of educating properly the parents of our clients, our professional teams work only four days with the children; on the fifth day - usually a Friday - they visit various parents in their homes, and on a need basis. These home visitationsspermit each habilitation team to program the mother in her natural environment; that is, the environment in which she is most comfortable and in which she is going to work with her child. Furthermore, the home environment is physically altered, if necessary and if possible, to allow for such effective interactions to occur between mother and child. For example, restructuring of a room - or part of a room - to make it more conducive to the therapy interaction. Subsequent visits are made to introduce lesson plans written for each child, attempting to remediate each child's unique deficits. Lessons are geared to the sophistication level of the parent and are demonstrated by the habilitation team members ensuring that minimal confusions and misapplications of therapy occur. Each member of the team is employed in drawing up the home therapy program, thus ensuring that the entire child and his problems in various areas will be considered. Other than these home visits, each parent is encouraged to observe, as well as actively participate in her child's clinical therapy program, to ask questions of her habilitationist, and to participate in group meetings with other parents and with varied professional workers. To reiterate: a major philosophical goalsoffour program is to bring the parent 'into' our program as an active and knowledgeable participant.

The Parent-Staff Association

To supplement the parental involvement activities noted above, we have helped in the creation of a parent-staff association (PSA) whose function is to: (1) help obtain additional funds for the program's less critical physical and clinical needs; (2) help new members of the parent group to accommodate to the program; and (3) give us input regarding their concerns and desires. We perceive these functions as being most important to a successful program. To reiterate in more detail, the PSA is asked to perform the following functions:

Provide Financial Aid/Aid in Kind: Many projects have been undertaken thus far including fund raising activities (e.g., bake sale, rummage sale, and paper drive) and parent education programs involving different speakers whose presence is supported by the PSA. The University Panhellenic has donated money to the PSA which is being used to create a library for the parents' utilization. The PSA also has arranged for the donation of furniture (e.g., refrigerator and piano), and equipment (a large "Teddy" bear with lighted nose for use in "conditioning" programs). In addition, the PSA prepares clinical materials needed in the home educational programs as well as in the Clinic.

Helping New Members: As new parents enter into the program they are frequently bewildered by the many activities surrounding them. A function of the PSA is to provide counsel and varied help to these parents until they adjust to the program.

Critical Input: Parents generally know and understand well the varied needs of their children. At least this is the premise under which this program functions. To this end we solicit information and criticisms from the parents regarding the varied activities of the program. These comments are thoroughly discussed and evaluated in staff meetings.

Behavioral Management

This refers to the frequent disturbances of activity states manifested by the children, and the need to change or modify these unacceptable behaviors. Effective therapeutic programming necessitates a child who is capable of "absorbing" the clinical input. Hyper- or hypo-active and/or distractible children are infrequently capable of storing and processing these inputs properly. Thus, effective methods must be devised to allow such children to better control their behaviors. This has been accomplished by pairing, when possible and desirable, operant conditioning contingencies, and psychopharmacological measures as recommended by the family pediatrician. Put differently, we are operating under the premise that an improvement in the child's physical behavior will elicit an increase in his language acquisition and his subsequent learning behaviors.

To eliminate the oppositional and negative behaviors as well as to control the activity states of the children, an individualized program of behavior modification has been constructed for a number of the children manifesting such aberrant behavior patterns. Utilizing the expertise of our consultant in child psychology, we have been able to implement effective techniques of reinforcement and extinction. These techniques have been implemented daily in the clinic by the staff and the trained student clinicians. During the various parent-education interactions, the habilitation team has explained and instructed the parents in the proper techniques of behavior modification. It is unrealistic to expect consistent behavioral alterations to occur in the child's behavior pattern if modification training occurs in the clinic only - as is often the case in treatment programs. Stambaugh (1974) found in a research project completed recently in our program, that home scheduling, which is easily implemented by most parents, may cater to this need.

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Furthermore, as indicated above, psychopharmacological treatment was advocated, and utilized successfully by some of the families whose children were particularly passive or hyperactive.* We believe that stimulant type drugs in particular, can be most effective with some children in obviating their behavioral problems, and that they deserve a trial with such medication. As we have discussed in detail elsewhere (Adler, 1974) an abundance of literature supports this view. Nevertheless, an extreme degree of caution has been generated by the public's concern with drug abuse problems, to the degree that an overrestrictive policy is now in force and drug therapy is difficult to initiate. Nevertheless by collaborating with the family physicians we have been able to institute behavioral control programs which facilitate significantly the learning capabilities of some children.

Language Treatment

The interdisciplinary team approach to the habilitative program allows for a unified "attack" upon those factors impeding the development of communicative skills. As suggested elsewhere (The Non Verbal Child, 1970) no profession or professional worker has the unique expertise necessary for effective treatment programming for language-retarded children. Rather, the approach that is interdisciplinary and thereby caters to the child's different needs through a varied treatment program, can be most effective. To this end, the following specialists operate as team members to perform the following activities.

Sensory-motor skills involving the haptic, auditory, and visual sense modalities are taught to the children by the movement educator. This professional worker possesses a degree in physical education with a specialty in adaptive education for the mentally retarded. Her particular concerns involve

*A recent thesis by R. Burns, completed at the University of Tennessee, Knoxville, 1972, suggests that many language retarded children can benefit from either dexedrine or ritalin - if proper dosage levels are prescribed and maintained.

teaching the children awareness of self in relation to the outside environment, and the attributes of movement: strength, flexibility, balance, coordination, agility, and endurance. The acquisition of such skills enable the child to develop a more meaningful relationship between his communication needs and abilities, and his environment. These sensory-motor functions according to Frostig and Maslow (1973), "are a necessary basis for the child's ability to discriminate sights and sounds and to focus attention. During this phase, the child learns to grasp spatial location and time sequences and sequential order through the acquisition of movement patterns... Such learning is a prerequisite for the acquisition of language because the development of language (oral, written, printed) is sequential." (p. 110)

Fine perceptual-motor programming is stressed by the special educator. In particular, the children are taught various eye-hand coordination skills involving visual space, figure-ground, form constancy, spatial relationships, and the decoding of sequential visual stimuli. By virtue of these activities, pre-reading and pre-writing skills are developed in most of the children, and basic reading abilities are taught to some of the older and higher functioning children.

The speech and language clinicians stress aural-oral development; the former through the utilization of treatment strategies designed to enhance auditory storage and processing skills and the latter with an informal psycholinguistic curriculum involving phonological, grammatical and lexical units. The former involves the use of time-expansion concepts (McCroskey and Thompson, 1973; LaBelle, 1973) employing rhythmic and intonational linguistic segments (Asp, 1974), with varied pause relationships. Furthermore, we try to stress significantly the last in a series of linguistic "chunks" presented to the child. This is done in view of the primacy--recency effects noted by McDade (1974) in which the first named command is usually retained (primacy effect) while the last command (recency effect) is usually forgotten.

In essence, speaking slowly, rhythmically, and in discrete linguistic clusters (i.e., a very few words at a time), seems to be of much help to children with storage and processing difficulties. With respect to the latter treatment strategy, we use the concepts well documented in the psycholinguistic literature to try to develop sequential language usage that is both intelligible and grammatically proper, at the same time the child learns the lexical equivalents of varied categories or classes of objects or things.

Conclusion: The Need for Such Programs

Language skills are the touchstone upon which educational competence must ultimately rest. Most children will not develop their educational abilities and talents normally and/or properly if their means of communication - particularly oral communication - are impaired. This cliche has received wide acceptance during the past decade and language programming of exceptional children has been instituted on a significant scale and in a variety of habilitation centers. The previous discussion has described one such program.

In brief, the philosophy and goals of our program have been that (1) the family constellation must alleviate its conflicts and problems, if the mother is to be programmed successfully as a teacher-clinician-adjunct, and (2) that the child's negative behavioral pattern must be altered if the habilitation program is to be maximally helpful to him.

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In another form, some of these data were presented at the Southeastern ASHA Convention, 1972, by Adler, Kressin and Pitzl in a program entitled "The Non-Verbal Child in the Classroom".

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